United States Department of Agriculture
Natural Resources Conservation Service

Idaho Water Supply Outlook Report February 1, 2004

"You just gotta love it!" – The Rotary Snowplow Driver

Idaho Department of Transportation crews clearing Highway 21 north of Idaho City near Mores Creek Summit December 30, 2004 after nearly 30 inches of snow fell.

Basin Outlook Reports
and
Federal - State - Private
Cooperative Snow Surveys

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or
Natural Resources Conservation Service
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Boise, Idaho 83709-1574
(208) 378-5740

Internet Web Address
http://www.id.nrcs.usda.gov/snow/

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

IDAHO WATER SUPPLY OUTLOOK REPORT

February 1, 2004

SUMMARY

The water spigot was either on or off during January. January started with a series of storms giving way to nearly two weeks of high pressure. Another round of storms at month's end allowed Idaho's snowpack to maintain their snowpack percentages from January 1 to February 1. January precipitation was 107% of average in northern Idaho, 80-90% across central and southern Idaho and only 73% in the Bear River basin. Snowpacks range from 95-110% of average for most basins. The lowest snowpacks are 90% of average in several basins and highest is 145% in the Owyhee basin. Reservoirs in central, southern and eastern Idaho remain low at 10-50% of capacity, while reservoir storage is more promising in the Boise and Payette reservoir systems at 75% and 94% of average, respectively. Streamflow forecasts call for 90-110% of average for most streams. However, users may wish to use a lesser forecast because of the accumulative drought effects and to reduce their chance of not having enough water. The highest forecasts are in the Owyhee basin at 120-140% of average and lowest is the Bear River at Stewart Dam at only 13% of average. If the current weather trends in the Bear River basin continue, the most severe water shortages since the 1930s are likely as Bear Lake is near empty at only 10% of capacity. Irrigation shortages are possible in the Salmon Falls, Oakley, Big Wood, Big Lost, Little Lost and parts of upper Snake especially if future conditions are drier than normal. Snowpacks and streamflow forecasts look encouraging and will provide some short-term relief from the drought, but long-term dryness will remain across southern Idaho until several wet years occur that get moisture back into the ground, springs, seeps, wetlands and aquifer, especially in the Bear River basin.

SNOWPACK

Snowpack percentages range from 95-110% of average for most basins in Idaho. The lowest snowpacks are 90% of average in the Bear, Little Lost, Birch, Big Wood above Hailey, Lemhi, and upper Salmon. The highest snowpacks are 135-145% of average in the Owyhee, Mores Creek and Willow basins. The snowpacks are 115-120% of average in the North Fork Payette, Henrys Fork, Portneuf, Salmon Falls and Bruneau basins. Snowpack percentages decreased 10-30 percentage points in some basins as a result of the below average precipitation and unusually high percentages from early January. The current snow is 60-75% of its seasonal peak for most basins. The highest is the Owyhee basin at 94% of its seasonal peak and has a few aerial markers that are 2-3 times their normal February 1 amounts. The snowpack in the Bear, Little Lost, Big Lost, Big Wood and Salmon is only 54-62% of its seasonal peak, much more snow is needed in these basins for the remaining winter months.

PRECIPITATION

January precipitation fell either at the beginning of the month or end of the month with nearly two weeks of high pressure and cold, foggy inversion weather in the middle of the month. In fact, sublimation or evaporation of snow water to the atmosphere was noticeable at several SNOTEL sites by observing a slight decrease in snow water content. This does not happen too often as winter storms usually keep adding moisture to the snowpack, but also shows how sensitive the snow pillow sensors are. A series of storms moved across the state at the end of the month with many Clearwater basin sites gaining 3-5 inches of snow water during the January 28-February 2 period. Most of the rest of the state gained 1-3 inches of moisture, however, the storms failed to bring much needed moisture to the Upper Snake and Bear River basins. January precipitation was the lowest in the state in the Bear River basin at only 73% of average followed by the Upper Snake at 83%. Elsewhere, January precipitation ranged from 86% of average in the Wood and Lost basins to 107% in northern Idaho. Water year to date precipitation is the lowest at 90% of average in the Wood, Lost, Salmon and Bear basins. The Clearwater basin hosts the highest water year to date precipitation at 105% of average.

RESERVOIRS

Reservoir storage remains low across central, southern and eastern Idaho. Owyhee Reservoir is 11% of average, 18% full and just waiting for the above average low snow to melt. Combined storage for Palisades and Jackson reservoirs is 41% of average, 28% full. American Falls Reservoir is about half full and the US Bureau of Reclamation does not project it to fill unless flood control releases are needed upstream. Bear Lake, Salmon Falls, Oakley and Magic reservoirs are about 10% full. Little Wood and Mackay reservoirs are 39% full. Blackfoot Reservoir remains nearly empty with a good low elevation snowpack making reading the gage difficult. The Boise Reservoir System is in better shape at 44% full, 75% of average. Cascade, Deadwood, Brownlee and Dworshak reservoirs look even better at 95% of average.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and, in some cases, dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

Streamflow forecasts remain encouraging with most basins forecast in the 90-105% of average range, except for the Bear River at Stewart Dam which is now forecast at only 13% of average. However, water users may consider using a lesser exceedance forecast to reduce their risk of being water short. The water supply picture for basins on the western side of the state such as the Owyhee, Weiser, Payette and even the Boise is looking better in terms of snow, soil moisture and reservoir storage. However, because of the accumulative drought effects - dry soil, springs, low reservoir storage, lower snowpacks and lack of fall rains, agricultural water shortages could still occur with the most severe being in the Bear River basin. Future precipitation and timing of the snowmelt will determine if this year's snowpack puts a dent in the accumulative drought effects across central, southern and eastern Idaho. In the Bear River basin, several wet years may be needed to improve the snowmelt runoff efficiency in producing streamflow in the lower elevations of the drainage.

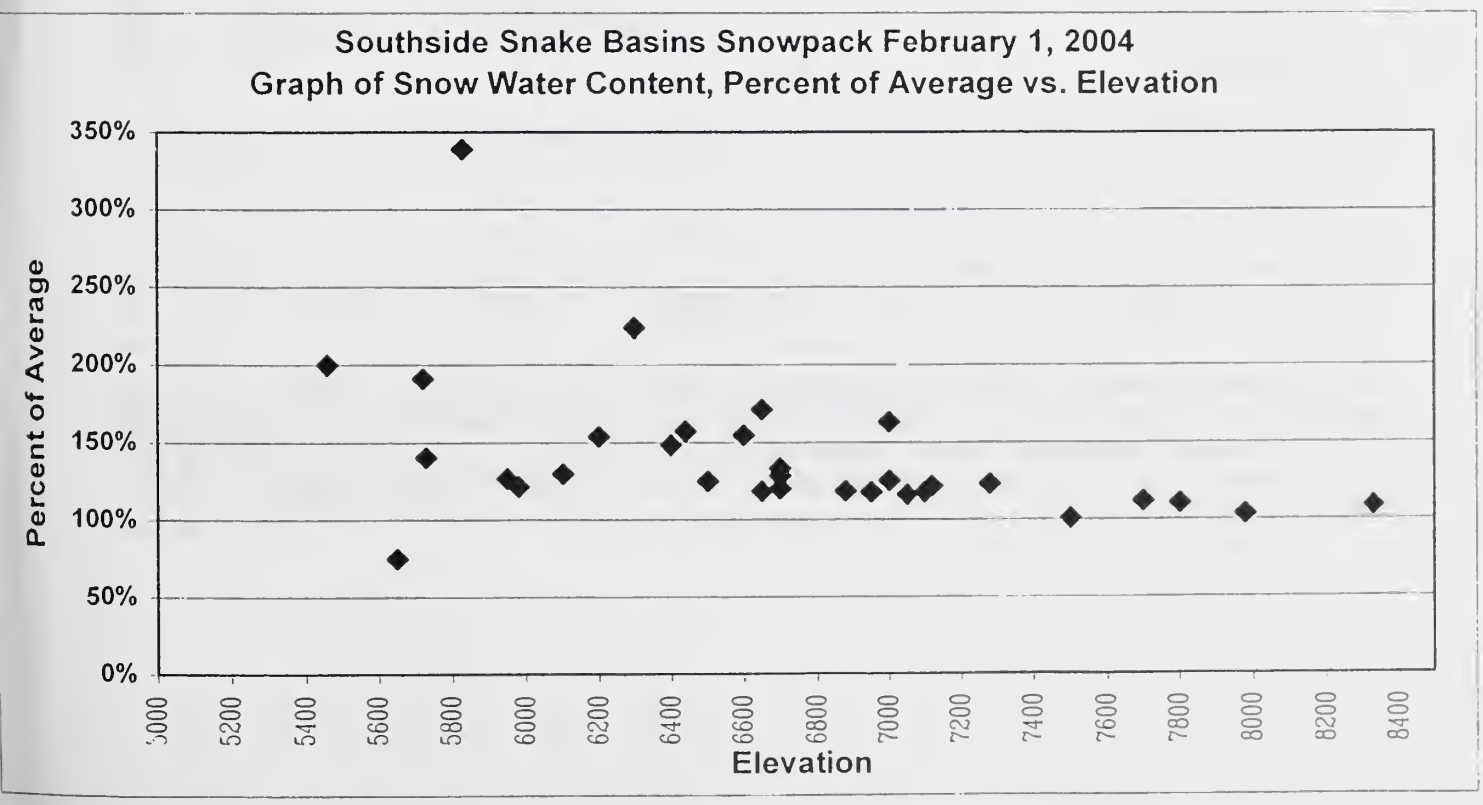
RECREATION

Near average precipitation in January keeps improving the winter recreation activities and the outlook for the summer boating season. Right now, the stage is set in the Owyhee basin: the reservoir is nearly empty at 11% of capacity, the snowpack is 145% of average, there is a good low elevation snowpack with some snow sites reporting 2-3 times their average February 1 snow water levels, and streamflow forecasts are for 142% of average for the Owyhee River near Rome and 112% for the reservoir inflow. Warm, wet weather could produce rapid melting and increases in streamflows or a gradual melt would produce a gradual increase in flow with more infiltrating into the ground. Stay tuned, but you might want to get your raft ready. The Bruneau River is looking more promising with a snowpack at 119% of average and stream forecast at average. The Boise and Payette basins are in good shape with above average mid-elevation snowpacks. Much more snow is needed in the higher elevations across the state to sustain streamflows into the summer months as Deadwood Summit SNOTEL site, in the heart of Idaho, is average and almost identical to the February 1 values for the past two seasons. The Middle Fork Salmon River forecast dropped to 86% of average. The Selway and Lochsa rivers are forecast at 96% of average.

OTHER INFORMATION

To have the first of month streamflow forecasts available more timely and closer to the first of each month, NRCS will post provisional streamflow forecasts on the first or second working day of the month under "Quick Glance Idaho Forecast Listing (current year)" on this web page:
http://www.id.nrcs.usda.gov/snow/watersupply/
The link will be updated with the most current forecasts until they are finalized. The complete monthly Water Supply Outlook Report is also available on the above page.

In addition, NRCS is developing a Drought and Surface Water Supply Index web page at:
http://www.id.nrcs.usda.gov/snow/watersupply/swsi-main.html
Numerous graphs will be available to keep users aware of current, historic and water supply trends in their basin of interest.



IDAHO SURFACE WATER SUPPLY INDEX (SWSI) As of January 1, 2004

The Surface Water Supply Index (SWSI) is a predictive indicator of surface-water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences.

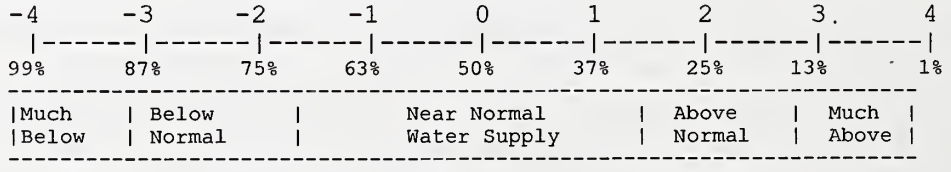
SWSI values are published January through May and provide a more comprehensive outlook of water availability than either streamflow forecasts or reservoir storage figures alone. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been established for most basins to indicate the potential for agricultural water shortages.

The following agencies and cooperators provide assistance in the preparation of the Surface Water Supply Index for Idaho:

US National Weather Service
US Bureau of Reclamation
Idaho Water Users Association
US Army Corps of Engineers
Idaho Dept. of Water Resources
PacifiCorp

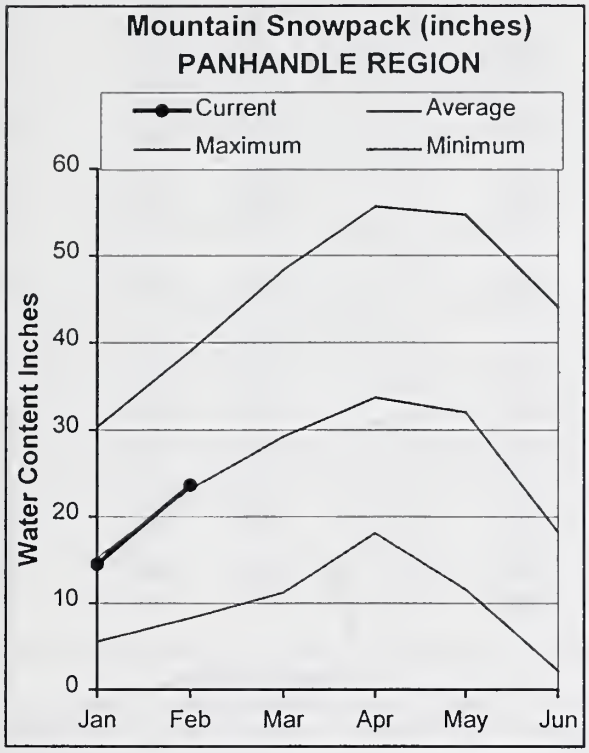
BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
PANHANDLE	-0.9	1993	NA
CLEARWATER	1.1	1989	NA
SALMON	-0.2	2003	NA
WEISER	0.5	2002	NA
PAYETTE	0.0	2003	NA
BOISE	0.2	1993	-2.1
BIG WOOD	-0.2	2000	-1.0
LITTLE WOOD	0.5	1996	-2.0
BIG LOST	0.0	1993	-0.5
LITTLE LOST	-0.5	1990	0.0
HENRYS FORK	1.5	1993	-3.3
SNAKE (HEISE)	-0.7	2000	-2.0
OAKLEY	-0.7	1995	-1.0
SALMON FALLS	-1.5	2000	-1.0
BRUNEAU	1.0	1996	NA
BEAR RIVER	-3.9	2003	-3.8

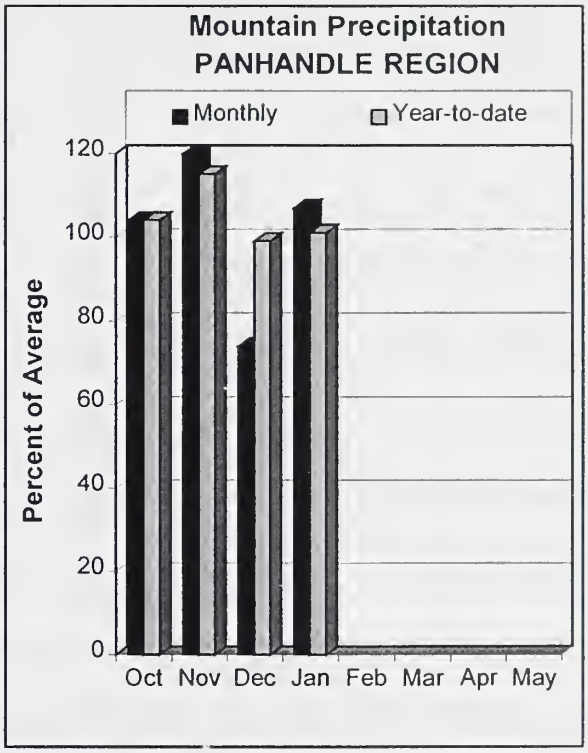
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION



Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

PANHANDLE REGION
FEBRUARY 1, 2004





WATER SUPPLY OUTLOOK

The Panhandle Region and Clearwater basin received the highest January precipitation in the state at 107% of average. Water year to date precipitation is average. The near average January precipitation kept snowpacks at nearly the same percentage as a month ago. Snowpacks range from 99% of average in the Kootenai basin to 111% in the Priest and Rathdrum basins. The Spokane basin snowpack is 107% of average and the Pend Oreille basin is 102%. The highest snowpacks are 125% of average in the low to mid-elevation areas and are approaching 90% of their seasonal peak water content that occurs in mid-March. These sites are in the 3,200-5,200 feet elevation band and include Sherwin, Moscow Mountain, Mica Creek, Mosquito Ridge and Humboldt Gulch SNOTEL sites. Higher elevation sites reach their seasonal maximum in early to mid-April. Overall, the Panhandle snowpack is about 70% of its seasonal peak. Streamflow forecasts remain similar to last month's and range from 95-110% of average. Water supplies should be adequate for the different water users and plentiful to fill the numerous lakes in northern Idaho.

PANHANDLE REGION
Streamflow Forecasts - February 1, 2004

Forecast Point	Forecast Period	<<== Drier == Future Conditions == Wetter ==>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
MOYIE RIVER at Eastport	APR-JUL	365	400	420	104	440	475	405
	APR-SEP	375	405	430	102	455	485	420
SMITH CREEK	APR-JUL	94	109	120	98	131	146	123
	APR-SEP	96	113	125	97	137	154	129
BOUNDARY CREEK	APR-JUL	102	117	127	103	137	152	123
	APR-SEP	108	123	133	103	143	158	129
CLARK FK at Whitehorse Rpds (1,2)	APR-JUL	7160	9530	10600	94	11670	14040	11300
	APR-SEP	7820	10420	11600	93	12780	15380	12500
PEND OREILLE Lake Inflow (2)	APR-JUL	8850	10610	11800	93	12990	14750	12700
	APR-SEP	9670	11590	12900	93	14210	16130	13900
PRIEST near Priest River (1,2)	APR-JUL	600	710	760	93	810	920	815
	APR-SEP	520	720	810	93	900	1105	870
COEUR D'ALENE at Enaville	APR-JUL	670	785	860	116	935	1050	740
	APR-SEP	710	825	905	116	985	1095	780
ST. JOE at Calder	APR-JUL	1025	1160	1250	110	1340	1470	1140
	APR-SEP	1100	1240	1330	111	1420	1560	1200
SPOKANE near Post Falls (2)	APR-JUL	2250	2590	2830	111	3070	3410	2550
	APR-SEP	2340	2700	2940	111	3180	3540	2650
SPOKANE at Long Lake (2)	APR-JUL	2460	2860	3130	110	3400	3800	2850
	APR-SEP	2670	3090	3370	110	3650	4070	3070

PANHANDLE REGION
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE	3451.0	2551.0	2427.0	2214.7
FLATHEAD LAKE	1791.0	955.6	1218.0	971.2
NOXON RAPIDS	335.0	129.1	329.5	310.9
PEND OREILLE	1561.3	562.1	943.5	749.3
COEUR D'ALENE	238.5	69.5	142.5	115.6
PRIEST LAKE	119.3	56.0	64.0	55.5

PANHANDLE REGION
Watershed Snowpack Analysis - February 1, 2004

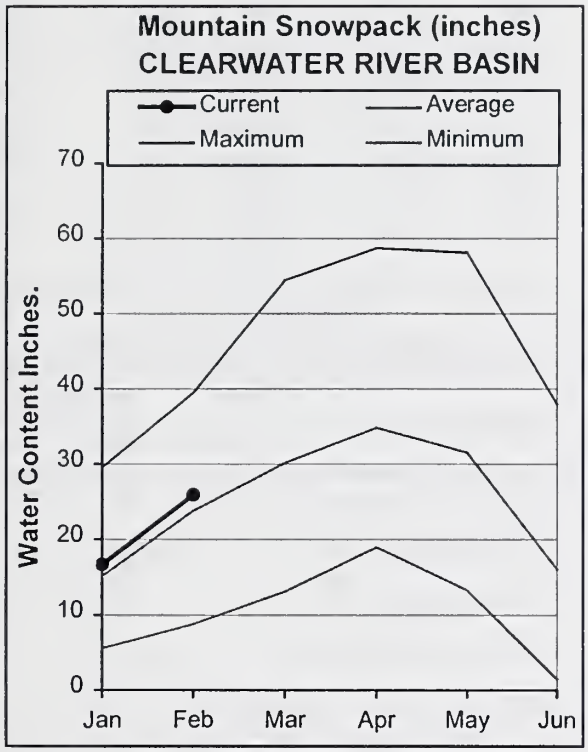
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	21	142	98
Moyie River	8	139	107
Priest River	4	118	111
Pend Oreille River	70	140	102
Rathdrum Creek	4	193	111
Hayden Lake	0	0	0
Coeur d'Alene River	6	227	108
St. Joe River	4	192	102
Spokane River	12	214	107
Palouse River	1	589	126

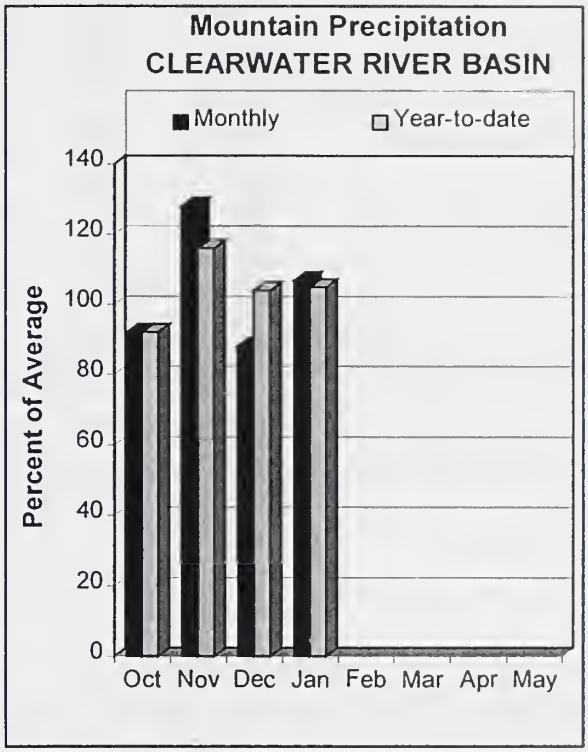
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

CLEARWATER RIVER BASIN
FEBRUARY 1, 2004





WATER SUPPLY OUTLOOK

Precipitation in January was slightly above average at 107% and is 105% for the water year. As a result of the near average precipitation, snowpack percentages remained about the same as a month ago. The winter storms the last week of January increased snow water content amounts by 2-5 inches which equals 20-50 inches of new snowfall. The Selway River continues to have the highest snowpack in the basin at 112% of average. The snowpacks in the North Fork Clearwater and Lochsa basins are 107% of average. Overall, the Clearwater basin snowpack is 109% of average. Depth of snow at several SNOTEL sites in the Clearwater basin is over 100 inches deep and is 121 inches at Hemlock Butte SNOTEL site located at 5,810 feet and about 5 miles east of Pierce Ranger Station. Dworshak Reservoir is 61% of capacity, 98% of average. Streamflow forecasts range from 95-110% of average. With the current snowpack at 73% of its seasonal peak that occurs in early April, and streamflow forecasts in the 95-110% of average range, water supplies should be adequate this year.

CLEARWATER RIVER BASIN
Streamflow Forecasts - February 1, 2004

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SELWAY near Lowell	APR-JUL	1710	1900	2020	98	2140	2330	2060
	APR-SEP	1800	2000	2130	98	2260	2460	2170
LOCHSA near Lowell	APR-JUL	1260	1390	1480	97	1570	1700	1530
	APR-SEP	1330	1470	1560	97	1650	1790	1610
DWORSHAK RESV INFLOW (1,2)	APR-JUL	1830	2610	2970	113	3330	4110	2640
	APR-SEP	2030	2810	3170	113	3530	4310	2800
CLEARWATER at Orofino (1)	APR-JUL	2990	4200	4750	102	5300	6510	4650
	APR-SEP	3250	4460	5010	102	5560	6770	4900
CLEARWATER at Spalding (1,2)	APR-JUL	5260	7310	8240	111	9170	11220	7430
	APR-SEP	5700	7750	8680	111	9610	11660	7850

CLEARWATER RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2116.5	2366.2	2170.7

CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - February 1, 2004

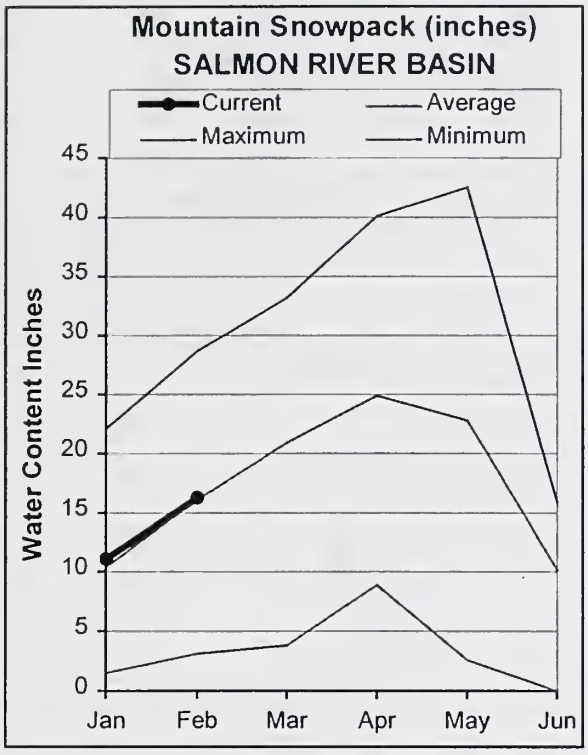
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	9	163	108
Lochsa River	3	128	106
Selway River	4	140	112
Clearwater Basin Total	17	160	109

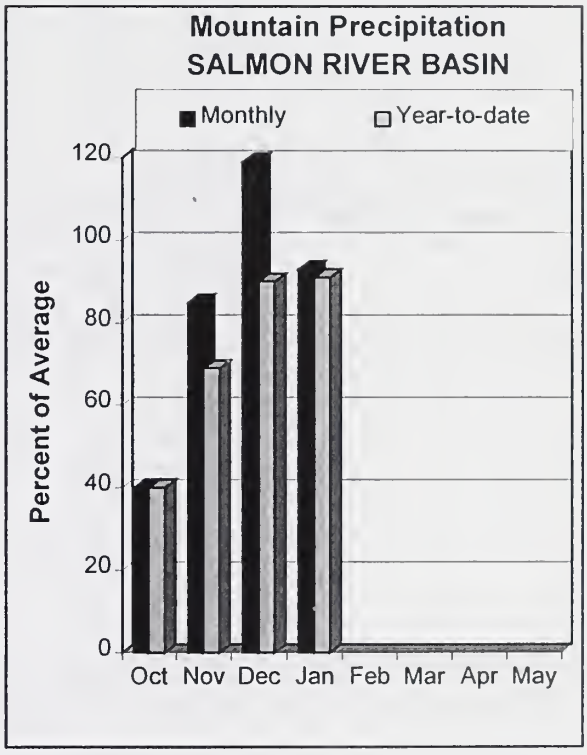
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

SALMON RIVER BASIN
FEBRUARY 1, 2004





WATER SUPPLY OUTLOOK

January precipitation was 93% of average for the basin as a whole. However some isolated sites received up to 125% while others in the Lemhi basin received only 60-70%. Water year to date precipitation is 91% of average. Snowpack percentages are similar to last month with the highest amounts in the Little Salmon basin at 113% of average and lowest amounts in the Lemhi and Salmon basin above Salmon at 90%. The snowpack in the South Fork Salmon is 104% and is 97% in the Middle Fork Salmon basin. Overall, the Salmon basin snowpack is 99% of average, down slightly from a month ago, but slightly better than a year ago. Streamflow forecasts mirror the snowpack with the lowest forecast in the Lemhi River at 73% of average. The Salmon River above Salmon and the Middle Fork Salmon River are forecast at 86% of average. The Salmon River at White Bird is forecast at near average. Streamflow runoff volumes and rafting conditions should be similar or even better than the past two years with average or better future precipitation.

SALMON RIVER BASIN
Streamflow Forecasts - February 1, 2004

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SALMON at Salmon (1)	APR-JUL	360	620	735	86	850	1110	855
	APR-SEP	485	745	860	86	975	1240	1000
Lemhi River nr Lemhi	APR-JUL	35	50	63	73	77	100	86
	APR-SEP	43	62	77	73	94	121	105
MF Salmon at MF Lodge	APR-JUL	453	583	680	86	785	952	790
	APR-SEP	511	653	760	87	875	1059	875
SALMON at White Bird (1)	APR-JUL	3700	5120	5760	99	6400	7820	5850
	APR-SEP	4320	5740	6380	99	7020	8440	6480

SALMON RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN
Watershed Snowpack Analysis - February 1, 2004

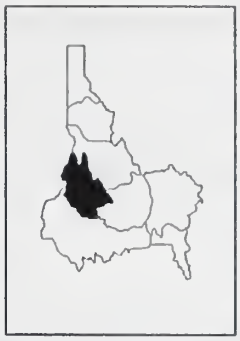
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	9	102	89
Lemhi River	6	109	90
Middle Fork Salmon River	3	105	97
South Fork Salmon River	3	103	104
Little Salmon River	4	117	113
Salmon Basin Total	24	107	99

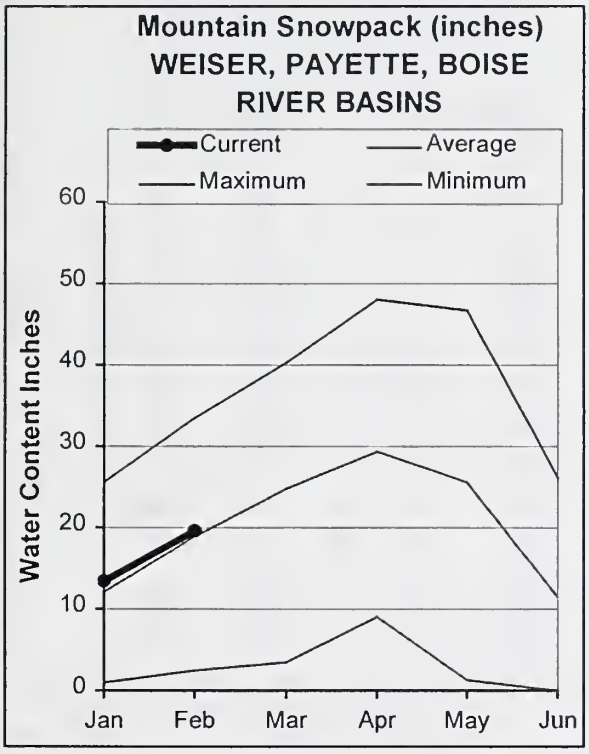
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

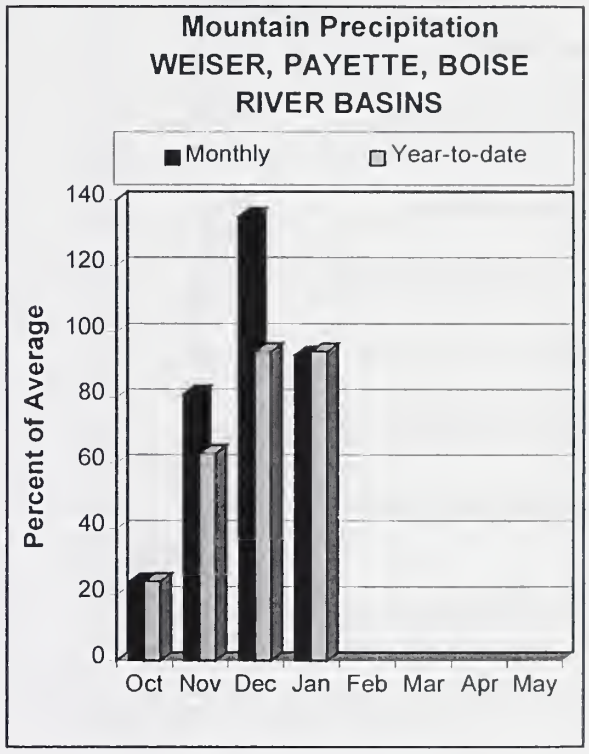
The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS FEBRUARY 1, 2004







WATER SUPPLY OUTLOOK

January precipitation was 93% of average in these west-central mountains. The highest precipitation amounts fell in the McCall area with Bear Saddle SNOTEL site receiving 123% of its average January amount. The least amount fell along the South Fork Boise and Big Wood basin divide at 80% of average. The precipitation for the water year is 94% of average and ranges from 79% at Graham Guard Station to 116% at Prairie SNOTEL site. Mother Nature brought plenty of snow to the mid-elevation sites in the 4,500-6,000 foot zone from Idaho City to McCall. This elevation band received the most snow from both series of storms at the beginning and end of January. Several snow measuring stations such as Bear Basin, Tripod Summit, Deadman Gulch, Bad Bear, Bogus Basin, Mores Creek and Prairie are 125-175% of average. This is good news if you like to shovel snow, but it's the higher elevation snow that provides and sustains the streamflow into the summer months. Higher elevation SNOTEL sites such as Deadwood Summit, Jackson Peak and Trinity Mountain in the 7,000-8,000 foot zone only have a near normal snowpack. Dollarhide Summit SNOTEL at 8,420 feet along the South Fork Boise and Big Wood basin divide is only 86% of average, the same as last year. The North Fork Payette basin has the highest snowpack at 115% of average. The snowpack in the Payette basin is 112% of average and is 109% in the Weiser and Boise basins. The Payette and Boise reservoir systems are in good shape at 94% and 75% of average, respectively. Streamflow forecasts call for near average summer streamflows with the lowest amounts in the South Fork Boise River at 90% of average and highest projected runoff at 109% for Mores Creek. With the current snowpack at 68% of the April 1 seasonal peaks, the water supply outlook is looking encouraging in these basins even if future conditions are drier than normal.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - February 1, 2004

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WEISER near Weiser (1)	APR-SEP	200	350	420	100	490	640	420
SF PAYETTE at Lowman	APR-JUL	325	385	425	97	465	525	440
	APR-SEP	370	435	480	97	525	590	495
DEADWOOD RESERVOIR Inflow (1,2)	APR-JUL	93	120	132	99	144	171	134
	APR-SEP	101	128	140	99	152	179	142
LAKE FORK PAYETTE near McCall	APR-JUL	67	76	82	97	88	97	85
	APR-SEP	69	79	85	96	91	101	89
NF PAYETTE at Cascade (1,2)	APR-JUL	315	430	480	98	530	645	490
	APR-SEP	355	470	520	98	570	685	530
NF PAYETTE nr Banks (2)	APR-JUL	455	555	625	97	695	795	645
	APR-SEP	490	600	675	98	750	860	690
PAYETTE nr Horseshoe Bend (1,2)	APR-JUL	1090	1410	1560	97	1710	2030	1610
	APR-SEP	1140	1520	1700	97	1880	2260	1750
BOISE near Twin Springs (1)	APR-JUL	470	585	635	100	685	800	635
	APR-SEP	500	630	690	100	750	880	690
SF BOISE at Anderson Ranch Dam (1,2)	APR-JUL	365	450	485	90	520	605	540
	APR-SEP	320	460	520	90	580	720	580
MORES CREEK near Arrowrock Dam	APR-JUL	102	126	143	109	160	184	131
	APR-SEP	106	131	148	108	165	190	137
BOISE near Boise (1,2)	APR-JUN	840	1080	1190	94	1300	1540	1260
	APR-JUL	855	1200	1350	96	1500	1840	1410
	APR-SEP	965	1310	1460	95	1610	1950	1530

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	1.3	3.7	4.3
CASCADE	693.2	417.9	448.4	448.4
DEADWOOD	164.0	82.9	58.0	86.3
ANDERSON RANCH	450.2	275.1	143.6	283.6
ARROWROCK	272.2	1.3	129.4	201.1
LUCKY PEAK	293.2	169.3	117.3	106.6
LAKE LOWELL (DEER FLAT)	165.2	118.9	60.3	101.7

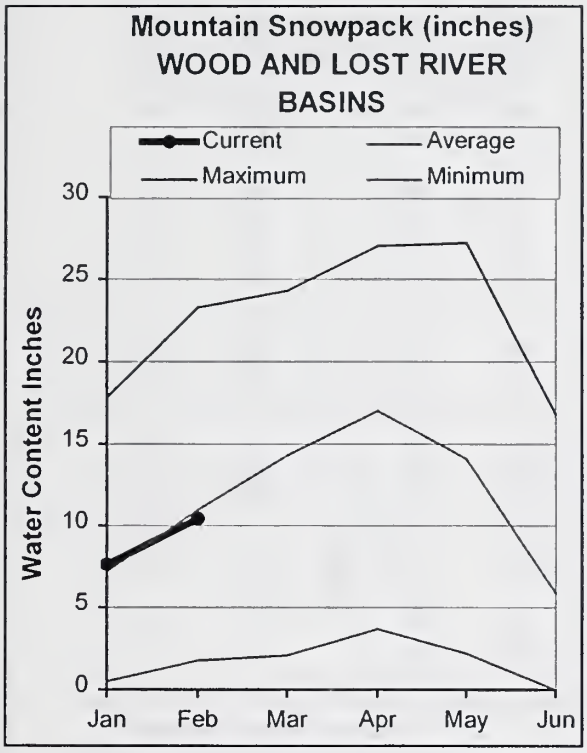
WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2004

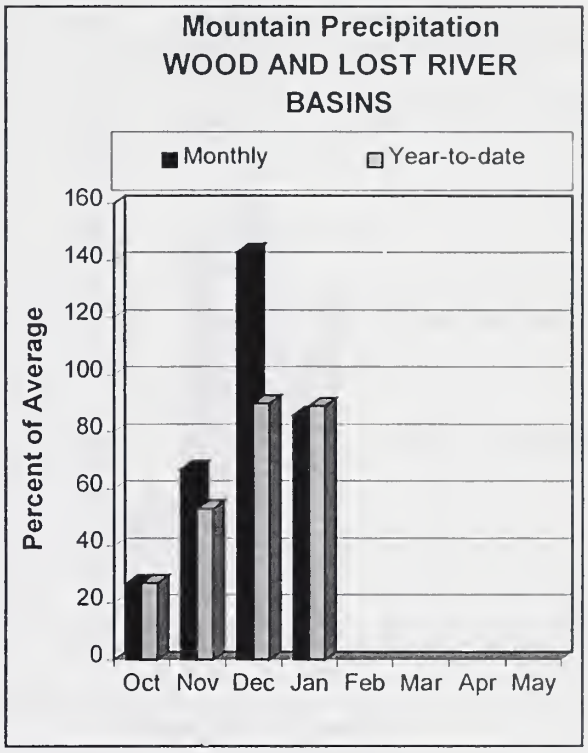
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	138	108
Weiser River	3	171	103
North Fork Payette	8	122	115
South Fork Payette	5	120	107
Payette Basin Total	13	120	112
Middle & North Fork Boise	5	125	106
South Fork Boise River	9	118	101
Mores Creek	4	226	137
Boise Basin Total	15	141	110
Canyon Creek	2	164	115

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

WOOD and LOST RIVER BASINS
FEBRUARY 1, 2004





WATER SUPPLY OUTLOOK

After three months with monthly precipitation that kept improving each month, January precipitation was below average at 86% of average. The greatest amounts fell in the headwaters of the Little Lost basin at 125% of average. The least amounts were 65-70% of average at Lost-Wood Divide, Galena and Galena Summit SNOTEL sites in the Big Wood basin. Water year to date precipitation is 89% of average. The below average precipitation decreased snowpack percentages 15-30 points from a month ago in the Camas, Big Wood, Little Wood and Big Lost basins. The greatest decrease was in Camas Creek, which is now 110% of average. The Big Wood basin above Hailey snowpack, which reflects more of the higher elevation snow zone, is only 91% of average. The Little Wood and Fish Creek basins snowpacks are 106% of average. The Big Lost basin snowpack is average and the same as last year. Little Lost, Birch and Medicine Lodge basins remain at 90% of average. Reservoir storage remains low with Magic Reservoir at only 24% of average, Mackay Reservoir at 63%, and Little Wood Reservoir at 72%. Streamflow forecasts decreased from last month and now range from 80-90% of average, except for the Little Lost River, which is forecast at 62% of average. A new forecast point was developed and is now being published by NRCS. This point is the Little Wood River above High Five Creek, which is forecast at 86% of average. This forecast point includes about 80% of the flow into the Little Wood Reservoir during the March-September period. Water supplies should be adequate in the Little Wood basin but could be marginal in the Big Wood, Big Lost and Little Lost basin, especially with below normal future precipitation.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - February 1, 2004

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BIG WOOD at Hailey (1)	APR-JUL	132	197	230	90	266	354	255
	APR-SEP	152	223	260	90	300	396	290
BIG WOOD near Bellevue	APR-JUL	76	119	153	81	192	256	188
	APR-SEP	84	128	163	82	202	268	200
CAMAS CREEK near Blaine	APR-JUL	42	65	83	83	104	138	100
	APR-SEP	42	65	84	83	105	140	101
BIG WOOD below Magic Dam (2)	APR-JUL	103	195	260	90	325	415	290
	APR-SEP	113	210	275	90	340	435	305
LITTLE WOOD R ab High Five Ck	MAR-JUL	43	60	73	86	88	112	85
	MAR-SEP	46	65	79	86	95	120	92
	APR-JUL	38	54	67	86	81	104	78
	APR-SEP	42	59	73	86	88	113	85
LITTLE WOOD near Carey (2)	MAR-JUL	48	68	82	85	96	116	96
	MAR-SEP	52	74	89	86	104	126	104
	APR-JUL	41	61	75	86	89	109	87
	APR-SEP	44	66	81	86	96	118	94
BIG LOST at Howell Ranch	APR-JUN	86	109	124	93	139	162	134
	APR-JUL	102	137	161	94	185	220	172
	APR-SEP	119	158	185	94	210	250	197
BIG LOST below Mackay Reservoir (2)	APR-JUL	73	107	130	92	153	188	142
	APR-SEP	97	134	159	92	186	221	173
LITTLE LOST blw Wet Creek	APR-JUL	18.2	23	26	62	29	34	42
	APR-SEP	22	28	32	65	36	42	49

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	20.5	18.6	85.0
LITTLE WOOD	30.0	11.7	10.0	16.3
MACKAY	44.4	17.4	14.6	27.7

WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - February 1, 2004

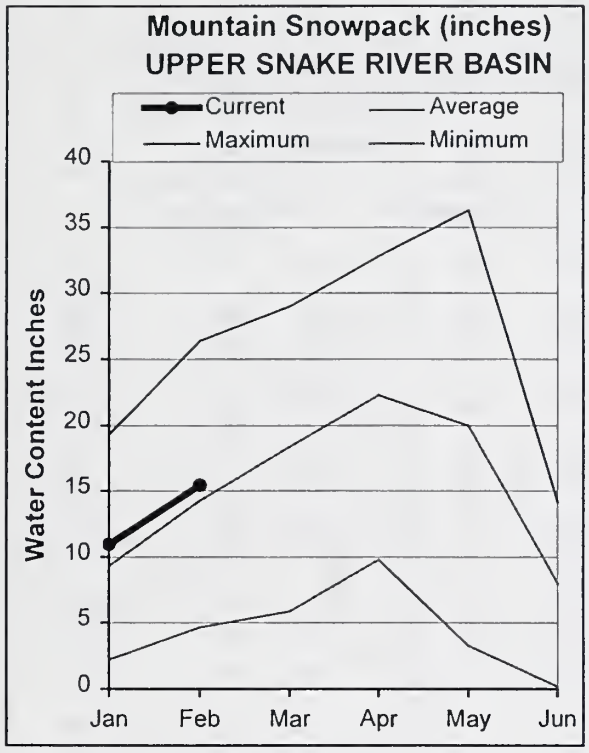
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Hailey	8	94	91
Camas Creek	5	131	110
Big Wood Basin Total	13	104	97
Fish Creek	3	118	107
Little Wood River	8	102	106
Big Lost River	6	99	101
Little Lost River	3	114	90
Birch-Medicine Lodge Cree	2	123	90
Camas-Beaver Creeks	4	155	112

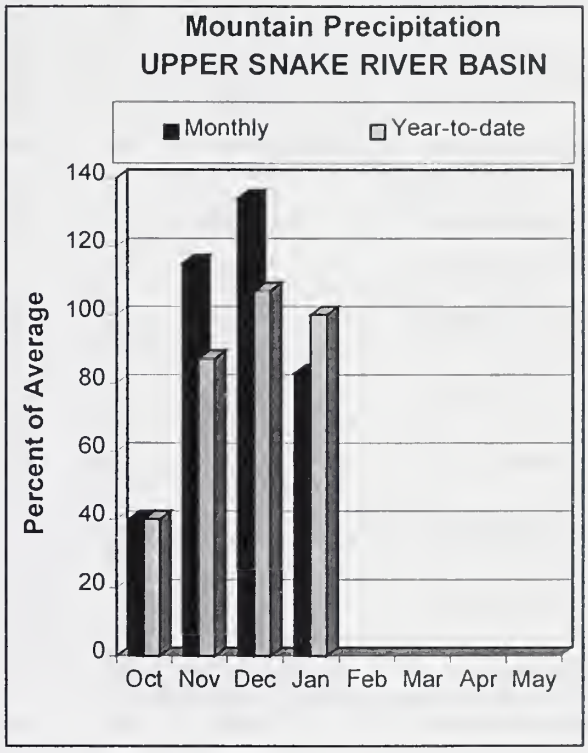
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

UPPER SNAKE RIVER BASIN
FEBRUARY 1, 2004





WATER SUPPLY OUTLOOK

January precipitation was only 83% of average, the second lowest in the state, only the Bear River basin had less. Water year to date precipitation is average thus far. As a result of the below average precipitation, the snowpack in most basins dropped 10-20 percentage points from a month ago. The highest snowpacks are now 115-120% of average in the Henrys Fork, Snake River above Jackson Lake, Willow Creek and Portneuf drainages. The lowest snowpacks are in the Snake River tributaries of Gros Ventre, Hoback and Greys at 90% of average. When the above and below average snowpacks for the Snake River drainage above Palisades Reservoir are combined, the result is a snowpack at 101% of average. Similar, with combining the low elevation snowpacks of eastern Idaho puts the Snake River basin snowpack above American Falls Reservoir at 107% of average. The lower elevation snowpack in Willow, Blackfoot and Portneuf basins is the greatest since 1998. This is great news and will help get much needed moisture back in these basins; however, having the higher elevation snowpacks above average helps sustain streamflow in to the summer months. The current snowpack in Willow, Blackfoot, Portneuf and Henrys Fork basins is 75% of their seasonal snow water content peaks, while the Snake basin above Palisades Reservoir is only 65% of its seasonal peak. Reservoir storage remains low: the Bureau of Reclamation does not expect American Falls Reservoir to refill because of the low spring inflows, unless flood control releases are required upstream. Streamflow forecasts call for 85-105% of average runoff, however, because of the accumulative drought effects, users should consider using a lesser streamflow forecast. Remember last year when the April 1 snow peaked at 94% of average for the Snake above Heise and summer streamflow was 71%. Similar in 2002 when the snow peaked at 80% of average and streamflow was 65%. Water shortages in the Upper Snake could occur depending upon your water rights, especially with below average future precipitation, but surface water supplies should be better than the past three years, hopefully.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - February 1, 2004

Forecast Point	Forecast Period	<<== Drier == Future Conditions == Wetter ==>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
HENRYS FORK near Ashton (2)	APR-JUL	490	545	580	102	615	670	570
	APR-SEP	675	735	780	102	825	885	765
HENRYS FORK near Rexburg (2)	APR-JUL	1360	1530	1640	105	1750	1920	1560
	APR-SEP	1810	1990	2120	106	2250	2430	2010
FALLS near Squirrel (1,2)	APR-JUL	300	355	380	99	405	460	385
	APR-SEP	365	425	450	99	475	535	455
TETON near Driggs	APR-JUL	132	161	180	109	199	229	165
	APR-SEP	171	206	230	110	255	290	210
TETON near St. Anthony	APR-JUL	320	380	420	104	460	520	405
	APR-SEP	390	460	505	105	550	620	480
SNAKE near Moran (1,2)	APR-SEP	735	865	925	102	985	1115	905
PACIFIC CREEK at Moran	APR-SEP	136	156	170	96	184	204	178
SNAKE above Palisades (2)	APR-JUL	1940	2170	2320	98	2470	2700	2370
	APR-SEP	2240	2500	2680	98	2860	3120	2730
GREYS above Palisades	APR-JUL	215	265	295	87	325	375	340
	APR-SEP	255	305	340	86	375	425	395
SALT near Etna	APR-JUL	190	245	285	84	325	380	340
	APR-SEP	235	305	350	83	395	465	420
PALISADES RESERVOIR INFLOW (1,2)	APR-JUL	2410	2940	3180	96	3420	3950	3330
	APR-SEP	2830	3430	3700	96	3970	4570	3870
SNAKE near Heise (2)	APR-JUL	2730	3120	3390	95	3660	4050	3560
	APR-SEP	3210	3660	3960	95	4260	4710	4160
WILLOW CREEK nr Ririe	MAR-JUL	51	68	81	92	95	119	88
BLACKFOOT RESV INFLOW	APR-JUN	60	88	108	90	128	156	120
SNAKE nr Blackfoot (1,2)	APR-JUL	3790	4480	4800	100	5120	5810	4790
	APR-SEP	4940	5630	5950	100	6270	6960	5940
PORTNEUF at Topaz	MAR-JUL	64	75	82	92	89	100	89
	MAR-SEP	80	92	101	93	110	122	109
AMERICAN FALLS RESV INFLOW (1,2)	APR-JUL	1870	2830	3260	101	3690	4650	3240
	APR-SEP	2140	3100	3530	101	3960	4920	3510

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of January

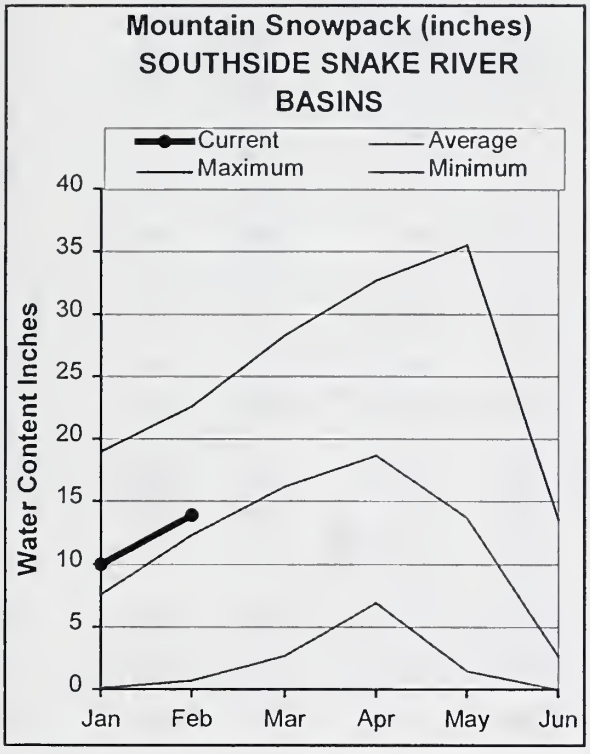
Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	67.8	67.8	83.2
ISLAND PARK	135.2	75.9	71.5	102.2
GRASSY LAKE	15.2	9.7	12.5	11.8
JACKSON LAKE	847.0	160.5	261.8	490.1
PALISADES	1400.0	459.7	500.9	1040.3
RIRIE	80.5	28.7	33.1	35.8
BLACKFOOT		NO REPORT		
AMERICAN FALLS	1672.6	804.5	921.2	1125.4

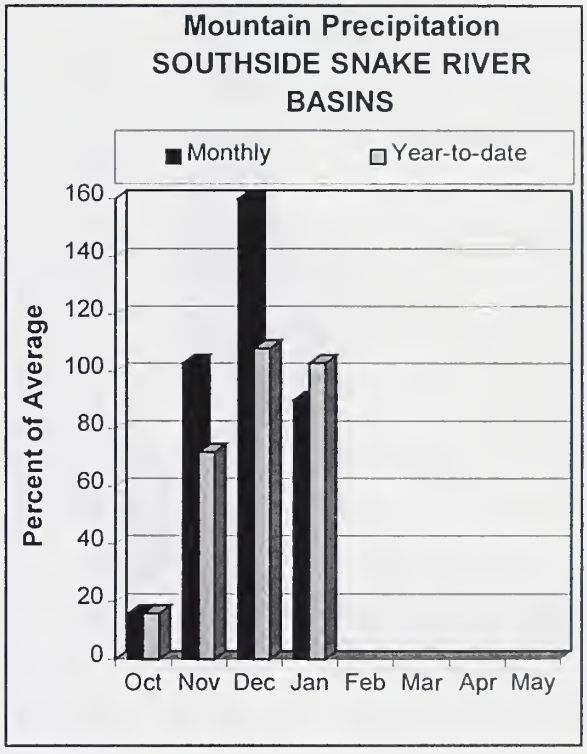
UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - February 1, 2004

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Henrys Fork-Falls River	10	148	119
Teton River	8	138	111
Henrys Fork above Rexburg	18	144	116
Snake above Jackson Lake	9	132	113
Gros Ventre River	3	112	88
Hoback River	5	122	92
Greys River	5	120	92
Salt River	5	120	97
Snake above Palisades	29	123	101
Willow Creek	7	174	134
Blackfoot River	3	147	110
Portneuf River	6	207	116
Snake abv American Falls	48	139	109

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table. The average is computed for the 1971-2000 base period.
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

SOUTHSIDE SNAKE RIVER BASINS FEBRUARY 1, 2004





WATER SUPPLY OUTLOOK

Precipitation in January was 90% of average and is average for the water year. As a result of the below average precipitation and high snowpack percentages in early January, snowpack percentages decreased 10-15 percentage points from a month ago. The Owyhee basin continues to host the highest snowpack in the state at 145% of average and is in the best shape at 94% of its seasonal peak that occurs around March 22. The stage is set in the Owyhee basin: the reservoir is nearly empty at 11% of capacity, 18% of average, there is a good low elevation snowpack with some snow sites reporting 2-3 times their normal February 1 snow water levels, and the streamflow forecasts call for 112-142% of average. Warm, wet weather could produce rapid melting and increases in streamflows or a gradual melt would produce a gradual increase. Stay tuned, but you might want to get your raft ready.2The Bruneau basin snowpack is 119% of average, Salmon Falls is 115%, and Oakley basin is 107%. These basins are 75% of their seasonal peaks. This is great news, but higher elevation snowpacks above 8,000 feet are only about 110% of average and 68% of their seasonal peaks. It is the higher elevation snow that sustains the streams in the summer months. Oakley Reservoir inflow and Salmon Falls Creek are forecast at 94% of average while the Bruneau River is forecast at 108%. Water shortages are still expected in Salmon Falls and Oakley basins, but hopefully supplies will be better than the past three seasons.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - February 1, 2004

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
OAKLEY RESV INFLOW	MAR-JUL	19.8	27	32	94	38	47	34
	MAR-SEP	22	29	35	95	41	51	37
OAKLEY RESV STORAGE	FEB-28	28	29	30	96	31	32	31
	MAR-31	30	32	34	94	36	38	36
	APR-30	33	37	39	95	41	45	41
SALMON FALLS CREEK nr San Jacinto	MAR-JUN	57	73	84	94	95	111	89
	MAR-JUL	56	73	85	91	97	114	93
	MAR-SEP	59	76	88	90	100	117	98
SALMON FALLS RESV STORAGE	FEB-28	55	58	60	100	62	65	60
	MAR-31	62	69	73	104	77	84	70
	APR-30	75	83	88	99	93	101	89
BRUNEAU near Hot Spring	MAR-JUL	160	206	240	102	277	336	235
	MAR-SEP	171	219	255	102	294	355	250
OWYHEE near Gold Creek (2)	MAR-JUL	37	37	38	119	39	40	32
OWYHEE nr Owyhee (2)	APR-JUL	51	78	96	117	114	141	82
OWYHEE near Rome	FEB-JUL	601	788	930	142	1083	1330	655
OWYHEE RESV INFLOW (2)	FEB-JUL	483	654	785	112	928	1160	700
	FEB-SEP	513	687	820	112	965	1199	730
	APR-SEP	214	320	405	94	500	657	430
SUCCOR CK nr Jordan Valley	FEB-JUL	13.1	20	25	130	30	37	19.3
SNAKE RIVER at King Hill (1,2)	APR-JUL	707	1521	1890	62	2260	3070	3050
SNAKE RIVER near Murphy (1,2)	APR-JUL	845	1701	2090	68	2480	3340	3090
SNAKE RIVER at Weiser (1,2)	APR-JUL	1134	3091	3980	69	4870	6830	5760
SNAKE RIVER at Hells Canyon Dam (1,2	APR-JUL	1570	3667	4620	71	5575	7670	6490
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	11485	17891	20800	96	23710	30110	21600

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	74.5	8.7	13.4	28.2
SALMON FALLS	182.6	14.1	13.8	55.7
WILDHORSE RESERVOIR	71.5	14.0	19.8	38.9
OWYHEE	715.0	77.6	140.9	438.3
BROWNLEE	1419.3	1129.6	1394.4	1176.3

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2004

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	2	198	111
Goose-Trapper Creeks	3	207	107
Salmon Falls Creek	7	200	115
Bruneau River	8	189	119
Owyhee Basin Total	20	262	145

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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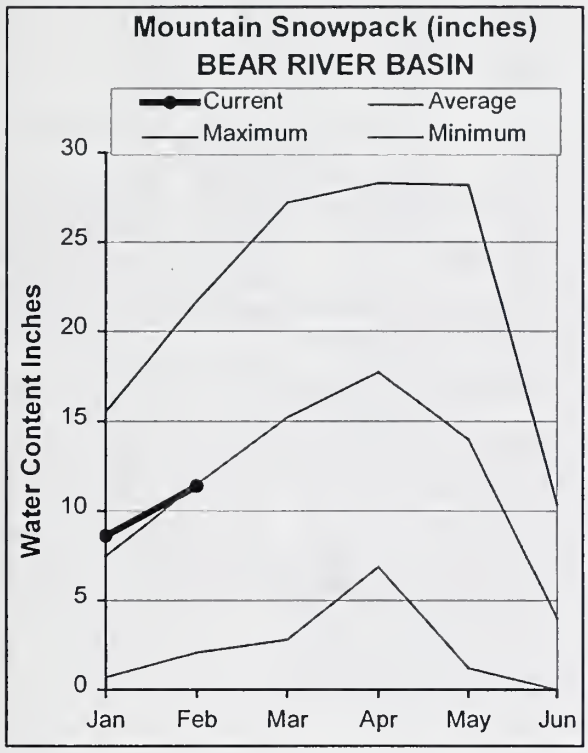
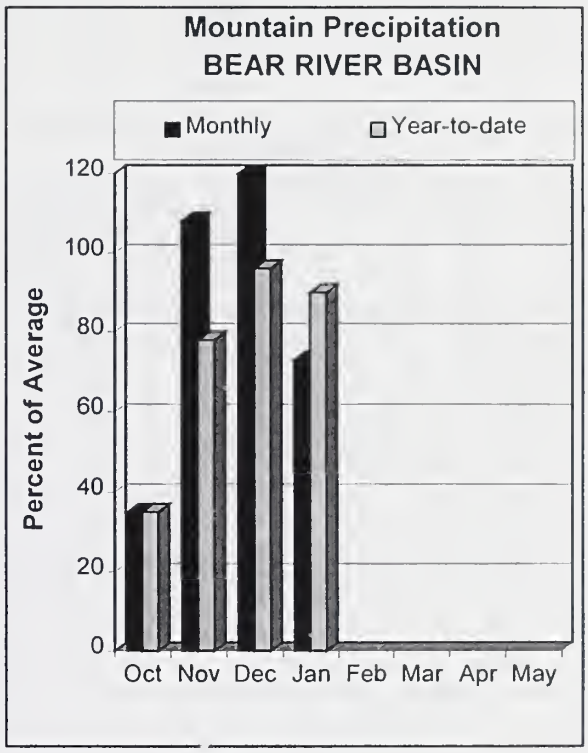
(2) - The value is natural volume - actual volume may be affected by upstream water management.

BEAR RIVER BASIN
FEBRUARY 1, 2004





WATER SUPPLY OUTLOOK

After receiving 120% of average precipitation in December, January precipitation took a turn for the worst and was only 73% of average, the lowest in the state. Water year to date precipitation decreased to 90% of average. Snowpack percentages decreased 15-25 percentages points from last month and are now about 90% of average in the Bear River and its tributaries, except for Oxford Springs SNOTEL site near Malad at 137% of average. The snowpack is better than the 62% of average measured a year ago, but much more snow is needed to fill the drought deficit from the past four years. Bear Lake is nearly empty in terms of usable storage at 10% of capacity, 16% of average. Streamflow forecasts deceased from a month ago to even lower runoff volumes. Forecasts remain the highest in the headwaters tributaries with Smiths Fork in Wyoming forecast at 78% of average and Bear River near UT-WY State Line forecast at 75%. Streamflow forecasts decrease downstream and call for 46% of average for the Bear River near Woodruff and for only 13% of average for the Bear River at Stewart Dam. This decreasing streamflow volume relationship is similar to last year's observed runoff and is a result of the accumulative drought effects -- dry soils, springs and wetland areas. The Bear River at Stewart Dam observed flow the past three years was less than 10% of average and was only 21% in 2000. Water users should be prepared and planning for water shortages as water may run out by mid-July. Conditions can improve with two more months of winter still to come, but in the Bear River basin usually several wet years are needed to saturate the soils and improve the snowmelt runoff efficiency.

BEAR RIVER BASIN
Streamflow Forecasts - February 1, 2004

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bear River nr UT-WY State Line	APR-SEP	55	78	94	75	110	133	125
Bear River ab Reservoir nr Woodruff	APR-SEP	9.0	42	65	46	88	121	142
Smiths Fork nr Border	APR-JUL	50	68	80	78	92	110	103
	APR-SEP	59	79	93	77	107	127	121
Bear River at Stewart Dam	APR-JUL	9.0	16.0	29	13	45	76	227
	APR-SEP	10.0	19.0	33	13	51	85	255

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	140.8	358.2	906.1
MONTPELIER CREEK	4.0	0.9	---	1.7

BEAR RIVER BASIN
Watershed Snowpack Analysis - February 1, 2004

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Smiths & Thomas Forks	4	129	89
Bear River ab WY-ID line	11	140	86
Montpelier Creek	1	138	95
Mink Creek	1	173	101
Cub River	1	168	89
Bear River ab ID-UT line	17	149	91
Malad River	1	243	137

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

influences from upstream reservoirs or diversions. These values are referred to as natural or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made to each forecast point in this report. (Revised 12/2000).

Panhandle River Basins

KOOTENAI R AT LEONIA, ID
+ LAKE KOOCANUSA (STORAGE CHANGE)
BOUNDARY CREEK NEAR PORTHILL, ID – No Corrections
MOYIE RIVER AT EASTPORT, ID – No Corrections
SMITH CREEK NEAR PORTHILL, ID – No Corrections
CLARK FORK AT WHITEHORSE RAPIDS, ID
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS RESV (STORAGE CHANGE)
PEND OREILLE LAKE INFLOW, ID
+ PEND OREILLE R AT NEWPORT, WA
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS (STORAGE CHANGE
+ PEND OREILLE LAKE (STORAGE CHANGE)
+ PRIEST LAKE (STORAGE CHANGE)
PRIEST R NR PRIEST R, ID
+ PRIEST LAKE (STORAGE CHANGE)
COEUR D'ALENE R AT ENAVILLE, ID - No Corrections
ST. JOE R AT CALDER, ID - No Corrections
SPOKANE R NR POST FALLS, ID
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
SPOKANE R AT LONG LAKE, WA
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
+ LONG LAKE, WA (STORAGE CHANGE)

Clearwater River Basin

DWORSHAK RESERVOIR INFLOW, ID
+ DWORSHAK RESV (STORAGE CHANGE)
- CLEARWATER R AT OROFINO, ID
+ CLEARWATER R NR PECK, ID
LOCHSA RIVER NR LOWELL - No Corrections
SELWAY RIVER NR LOWELL - No Corrections
CLEARWATER R AT OROFINO, ID - No Corrections
CLEARWATER R AT SPALDING, ID
+ DWORSHAK RESV (STORAGE CHANGE)

Salmon River Basin

SALMON R AT SALMON, ID - No Corrections
SALMON R AT WHITE BIRD, ID - No Corrections

Weiser, Payette, Boise River Basins

WEISER R NR WEISER, ID - No Corrections
SF PAYETTE R AT LOWMAN, ID - No Corrections
DEADWOOD RESERVOIR INFLOW, ID
+ DEADWOOD R BLW DEADWOOD RESV NR LOWMAN
+ DEADWOOD RESV (STORAGE CHANGE)
LAKE FORK PAYETTE RIVER NR MCCALL, ID – No Corrections
NF PAYETTE R AT CASCADE, ID
+ CASCADE RESV (STORAGE CHANGE)
NF PAYETTE R NR BANKS, ID
+ CASCADE RESV (STORAGE CHANGE)
PAYETTE R NR HORSESHOE BEND, ID
+ DEADWOOD RESV (STORAGE CHANGE)
+ CASCADE RESV (STORAGE CHANGE)
BOISE R NR TWIN SPRINGS, ID - No Corrections
SF BOISE R AT ANDERSON RANCH DAM, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
BOISE R NR BOISE, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
+ ARROWROCK RESV (STORAGE CHANGE)
+ LUCKY PEAK RESV (STORAGE CHANGE)

Wood and Lost River Basins

BIG WOOD R AT HAILEY, ID - No Corrections
BIG WOOD R NR BELLEVUE, ID - No Corrections
CAMAS CREEK NEAR BLAINE – No Corrections
BIG WOOD R BLW MAGIC DAM NR RICHFIELD, ID
+ MAGIC RESV (STORAGE CHANGE)
LITTLE WOOD R NR CAREY, ID
+ LITTLE WOOD RESV (STORAGE CHANGE)
BIG LOST R AT HOWELL RANCH NR CHILLY, ID - No Corrections
BIG LOST R BLW MACKAY RESV NR MACKAY, ID
+ MACKAY RESV (STORAGE CHANGE)
LITTLE LOST R BLW WET CK NR HOWE, ID - No Corrections

Upper Snake River Basin

HENRYS FORK NR ASHTON, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
HENRYS FORK NR REXBURG, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
+ DIV FM HENRYS FK BTW ASHTON & ST. ANTHONY, ID
+ DIV FM HENRYS FK BTW ST. ANTHONY & REXBURG, ID
+ GRASSY LAKE (STORAGE CHANGE)
FALLS R ABV YELLOWSTONE CANAL NR SQUIRREL, ID
+ GRASSY LAKE (STORAGE CHANGE)
TETON R ABV SO LEIGH CK NR DRIGGS, ID - No Corrections
TETON R NR ST. ANTHONY, ID
- CROSS CUT CANAL
+ SUM OF DIVERSIONS ABV GAGE
SNAKE R NR MORAN, WY
+ JACKSON LAKE (STORAGE CHANGE)
PALISADES RESERVOIR INFLOW, ID
+ SNAKE R NR IRWIN, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)

SNAKE R NR HEISE, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)

BLACKFOOT RESVERVOIR INFLOW, ID
+ BLACKFOOT RIVER
+ BLACKFOOT RESERVOIR (STORAGE CHANGE
SNAKE R NR BLACKFOOT, ID
+ PALISADES RESV (STORAGE CHANGE)
+ JACKSON LAKE (STORAGE CHANGE)
+ DIV FM SNAKE R BTW HEISE AND SHELLY GAGES
+ DIV FM SNAKE R BTW SHELLY AND BLACKFT, ID
PORTNEUF R AT TOPAZ, ID - No Corrections
AMERICAN FALLS RESERVOIR INFLOW, ID
+ SNAKE RIVER AT NEELEY
+ ALL CORRECTIONS MADE FOR HENRYS FK NR REXBURG, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)
+ DIV FM SNAKE R BTW HEISE AND SHELLY GAGES
+ DIV FM SNAKE R BTW SHELLY AND BLACKFT GAGES

Southside Snake River Basins

OAKLEY RESERVOIR INFLOW, ID
+ GOOSE CK ABV TRAPPER CK NR OAKLEY, ID
+ TRAPPER CK NR OAKLEY, ID
SALMON FALLS CK NR SAN JACINTO, NV - No Corrections
BRUNEAU R NR HOT SPRINGS, ID - No Corrections
OWYHEE R NR GOLD CK, NV
+ WILDHORSE RESV (STORAGE CHANGE)
OWYHEE R NR OWYHEE, NV
+ WILDHORSE RESV (STORAGE CHANGE)
OWYHEE R NR ROME, OR – No Corrections
OWYHEE RESERVOIR INFLOW, OR
+ OWYHEE R BLW OWYHEE DAM, OR
+ OWYHEE RESV (STORAGE CHANGE)
+ DIV TO NORTH AND SOUTH CANALS
SUCCOR CK NR JORDAN VALLEY, OR - No Corrections
SNAKE R - KING HILL, ID - No Corrections
SNAKE R NR MURPHY, ID - No Corrections
SNAKE R AT WEISER, ID - No Corrections
SNAKE R AT HELLS CANYON DAM, ID
+ BROWNLEE RESV (STORAGE CHANGE)

Bear River Basin

BEAR R NR RANDOLPH, UT
+ SULPHUR CK RESV (STORAGE CHANGE)
+ CHAPMAN CANAL DIVERSION
+ WOODRUFF NARROWS RESV (STORAGE CHANGE)
SMITHS FORK NR BORDER, WY - No Corrections
THOMAS FORK NR WY-ID STATELINE - No Corrections (Disc)
BEAR R BLW STEWART DAM, ID
+ SULPHUR CK RESV (STORAGE CHANGE)
+ CHAPMAN CANAL DIVERSION
+ WOODRUFF NARROWS RESV (STORAGE CHANGE)
+ DINGLE INLET CANAL
+ RAINBOW INLET CANAL
MONTPELIER CK AT IRR WEIR NR MONTPELIER, ID (Disc)
+ MONTPELIER CK RESV (STORAGE CHANGE)
CUB R NR PRESTON, ID - No Corrections

RESERVOIR CAPACITY DEFINITIONS (Units in 1,000 acre-feet, KAF)
Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists these volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. (Revised January 2002)

BASIN/ RESERVOIR	DEAD STORAGE	INACTIVE STORAGE	ACTIVE STORAGE	SURCHARGE STORAGE	NRCS CAPACITY	NRCS CAPACITY INCLUDES
PANHANDLE REGION						
HUNGRY HORSE	39.73	--	3451.00	--	3451.0	ACTIVE
FLATHEAD LAKE	Unknown	--	1791.00	--	1971.0	ACTIVE
NOXON RAPIDS	Unknown	--	335.00	--	335.0	ACTIVE
PEND OREILLE	406.20	112.40	1042.70	--	1561.3	DEAD+INACTIVE+ACTIVE
COEUR D'ALENE	--	13.50	225.00	--	238.5	INACTIVE+ACTIVE
PRIEST LAKE	20.00	28.00	71.30	--	119.3	DEAD+INACTIVE+ACTIVE
CLEARWATER BASIN						
DWORSHAK	--	1452.00	2016.00	--	3468.0	INACTIVE+ACTIVE
WEISER/BOISE/PAYETTE BASINS						
MANN CREEK	1.61	0.24	11.10	--	11.1	ACTIVE
CASCADE	--	46.70	646.50	--	693.2	INACTIVE+ACTIVE
DEADWOOD	--	--	164.00	--	164.0	ACTIVE
ANDERSON RANCH	24.90	37.00	413.10	--	450.1	INACTIVE+ACTIVE
ARROWROCK	--	--	272.20	--	272.2	ACTIVE
LUCKY PEAK	--	28.80	264.40	13.80	293.2	INACTIVE+ACTIVE
LAKE LOWELL	7.90	5.80	159.40	--	165.2	INACTIVE+ACTIVE
WOOD/LOST BASINS						
MAGIC	--	--	191.50	--	191.5	ACTIVE
LITTLE WOOD	--	--	30.00	--	30.0	ACTIVE
MACKAY	0.13	--	44.37	--	44.4	ACTIVE
UPPER SNAKE BASIN						
HENRYS LAKE	--	--	90.40	--	90.4	ACTIVE
ISLAND PARK	0.40	--	127.30	7.90	135.2	ACTIVE+SURCHARGE
GRASSY LAKE	--	--	15.18	--	15.2	ACTIVE
JACKSON LAKE	--	--	847.00	--	847.0	ACTIVE
PALISADES	44.10	155.50	1200.00	--	1400.0	DEAD+INACTIVE+ACTIVE
RIRIE	4.00	6.00	80.54	10.00	80.5	ACTIVE
BLACKFOOT	--	--	348.73	--	348.7	ACTIVE
AMERICAN FALLS	--	--	1672.60	--	1672.6	ACTIVE
SOUTHSIDE SNAKE BASINS						
OAKLEY	--	--	74.50	--	74.5	ACTIVE
SALMON FALLS	48.00	--	182.65	--	182.6	ACTIVE
WILDHORSE	--	--	71.50	--	71.5	ACTIVE
OWYHEE	406.83	--	715.00	--	715.0	ACTIVE
BROWNLEE	0.45	444.00	975.30	--	1419.3	INACTIVE+ACTIVE
BEAR RIVER BASIN						
WOODRUFF NARROWS	--	1.50	57.30	--	57.3	ACTIVE
WOODRUFF CREEK	--	4.00	4.00	--	4.0	ACTIVE
BEAR LAKE	--	--	1421.00	--	1421.0	ACTIVE
MONTPELIER CREEK	0.21	--	3.84	--	4.0	DEAD+ACTIVE

Interpreting Streamflow Forecasts

Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflovv forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations, There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value.
There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast. There is a 90 percent chance that the streamflow volume will exceed this forecast value.
There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

10 Percent Chance of Exceeding Forecast. there is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

Using the forecasts - an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River near Death between March 1 and July 31.

Using the Higher Exceedence Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three Out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL	329	414	471	109	528	613	432
	APR-SEP	369	459	521	107	583	673	488
BOISE RIVER near Twin Springs (1)	APR-JUL	443	610	685	109	760	927	631
	APR-SEP	495	670	750	109	830	1005	

For more information concerning streamflow forecasting ask your local NRCS field office for a copy of "A Field *Office Guide* for *Interpreting Streamflow Forecasts" or visit our Web page.*

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